

Centerpulse Orthopedics Ltd.

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**Claims**

- 5     1.     An apparatus for the preparation of a femoral condyle for the inser-  
tion of monocondylar knee implants,  
comprising at least one combined cutting and drilling jig (45)  
which, when the knee is in flexion, can be fixed to the femoral con-  
10     dyle at a desired spacing from a tibia plateau dependent on the  
thickness of a tibia implant to be inserted,  
the jig having concave side (71) facing the femoral condyle and being  
curved in accordance with a femur implant to be inserted,  
having at least one fixing passage (69) in a drilling section (41) of the  
15     jig for a drill and for a fixing element (61, 63), with the fixing pas-  
sage (69) being positioned and oriented with respect to the curved  
side (71) in accordance with the femur implant to be inserted,  
having at least one slot (57) in a cutting section (37) of the jig for a  
cutting tool (55) by which a cutting plane for a condylar cut (43) is  
20     defined, and  
having has a coupling section (23) for an alignment aid (15) by  
means of which the cutting and drilling jig (45) located at the de-  
sired spacing from the tibia plateau is adjustable relative to the  
femoral condyle.
- 25     2.     An apparatus in accordance with claim 1, characterized in that at  
least one coupling passage (73) formed in the drilling section (41) of  
the jig and extending substantially perpendicular to the fixing pas-

sage (69) is provided as a coupling section (23) of the cutting and drilling jig (45).

3. An apparatus in accordance with claim 1, characterized in that the cutting and drilling jig (45) can be coupled to a spreading device (11) by means of which a desired spacing can be set between the femoral condyle and an oppositely disposed tibia plateau.
4. An apparatus in accordance with claim 3, characterized in that the cutting section (37) of the of the cutting and drilling jig (45) is simultaneously made as a slide attachment shoe which can be coupled to the spreading device (11) and via which the cutting and drilling jig (45) is adjustable in a compulsorily guided manner at the spreading device (11).
5. An apparatus in accordance with claim 1 characterized in that the cutting and drilling jig (45) is provided, in addition to the fixing passage (69), with a positioning passage (75) which is formed in the drilling section (41) of the jig and via which the cutting and drilling jig (45) is positionable relative to the femoral condyle by means of a positioning pin (59) before the fixing to the femoral condyle taking place via the fixing passage (69).
6. An apparatus in accordance with claim 1 characterized in that the cutting and drilling jig (45) can be coupled to an additional cutting jig (81) with which, when the knee is in flexion, a further condylar cut (83) can be fixed which extends in a curved manner between two planar cut surfaces (39, 43) which have previously been established

at the femoral condyle and of which the one cut surface (43) was formed by means of the cutting section (37) of the combined cutting and drilling jig (45) and the other cut surface (39) was made when the knee was in extension, with the two planar cut surfaces (39, 43) preferably extending at least substantially perpendicular to one another.

7. An apparatus in accordance with claim 6, characterized in that the course of the curved side (71) of the combined cutting and drilling jig (45) is able to be mapped at least regionally on the femoral condyle by means of the additional cutting jig (81)
8. An apparatus in accordance with claim 6, characterized in that the additional cutting jig (81) includes a disk cam (85) with a convex guide surface (87) along which a cutting tool (55) is guidable and whose extent corresponds to the curved side (71) of the combined cutting and drilling jig (45).
9. An apparatus in accordance with claim 8, characterized in that the additional cutting jig (81) is oriented with respect to the cutting and drilling jig (45) in the state coupled to the cutting and drilling jig (45) fixed to the femoral condyle such that the guide surface (87) of the additional cutting jig (81) and the curved side (71) of the cutting and drilling jig (45) are only translatorily offset toward one another.
10. An apparatus in accordance with claim 6, characterized in that the additional cutting jig (81) is likewise fixable to the femoral condyle in

the state coupled to the cutting and drilling jig (45) fixed to the femoral condyle.

11. An apparatus in accordance with claim 6, characterized in that the additional cutting jig (81) is provided with at least one fixing passage (89), and preferably a plurality of fixing passages, which extend substantially perpendicular to the fixing passage (69) of the combined cutting and drilling jig (45) in the state coupled to the combined cutting and drilling jig (45).
12. An apparatus in accordance with claim 8, characterized in that the guide surface (87) is adjustable relative to the femoral condyle with the additional cutting jig (81) fixed to the femoral condyle.
13. An apparatus in accordance with claim 8, characterized in that the additional cutting jig (81) includes a base section (91) which can be fixed to the femoral condyle and to which the disk cam (85) is adjustably attached with the base section (91) fixed to the femoral condyle for the alignment of the guide surface (87) formed at the cam disk (85) with a condylar cut (39) which was previously carried out, when the knee was in extension, at a desired spacing from the tibia plateau dependent on the thickness of a tibia implant to be inserted.
14. An apparatus in accordance with claim 13, characterized in that the disk cam (85) is adjustable relative to the base section (91) fixed to the femoral condyle such that the vertex of the guide surface (87)

formed at the disk cam (85) is disposed in the plane defined by the condylar cut (39).

15. An apparatus in accordance with claim 6, characterized in that the coupling section (23) of the combined cutting and drilling jig (45) provided for the alignment aid (15) is simultaneously made for coupling to the additional cutting jig (81).  
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16. An apparatus in accordance with claim 6, characterized in that a separate coupling device (93) is provided for the coupling of the additional cutting jig (81) to the combined cutting and drilling jig (45) at which the additional cutting jig (81) can be fixed and with which the additional cutting jig (81) is adjustable, in particular linearly displaceable, relative to the combined cutting and drilling jig (45) in the fixed state.  
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17. An apparatus in accordance with claim 16, characterized in that the coupling device (93) includes a clamping device (95) by means of which the additional cutting jig (81) is fixingly clampable to the coupling device (93).  
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18. An apparatus in accordance with claim 16, characterized in that the coupling device (93) is removable with the combined cutting and drilling jig (45) and the additional cutting jig (81) fixed to the femoral condyle.  
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